REMARKS

Claims 10-16 are presented for consideration, with Claims 10, 15 and 16 being independent. The independent claims have been amended to further clarify features of Applicants' invention.

Initially, the abstract of the disclosure was objected to for exceeding the 150 word limit. In response to this objection, the abstract has been amended as shown above.

Claims 10 and 13-16 stand rejected under 35 U.S.C. §103 as allegedly being obvious over Williamson et al. (U.S. Patent Application Publication No. 2004/0104935) in view of Jaszlics et al. (U.S. Patent No. 6,166,744). In addition, Claims 11 and 12 are rejected as allegedly being obvious over those citations and further in view of the Lescinsky publication. These rejections are respectfully traversed.

Claim 10 of Applicants' invention relates to an image processing apparatus for compositing an image of a virtual object and an image of a physical space to generate a mixed reality image and causing an HMD to display the mixed reality image. The apparatus includes a database which holds data used for generating the image of the virtual object, an image capturing unit which is attached to the HMD and captures the image of the physical space, a first measurement unit which measures a position and orientation of the HMD, and an object manipulation unit which is used by a user wearing the HMD in order to operate a position and orientation of the virtual object. In addition, a second measurement unit measures a position and orientation of the object manipulation unit, an operation panel which can be operated by the user, arranged at a position in the physical space within a viewing field of said image capturing unit

attached to the HMD, displays an operation panel image used for editing the virtual object, and is capable of receiving a user instruction of editing the virtual object input by the user, and an operation panel image generation unit generates the operation panel image by using the data held in the database and outputs the generated operation panel image to the operation panel. A rendering unit updates the data held in the database according to the user instruction received via the operation panel and the measurement result of the second measurement unit, and renders, by using the updated data, the image of the virtual object according to the measurement results of the first and second measuring units, and a composition unit composites the image of the rendered virtual object and the captured image of the physical space to generate the mixed reality image. Finally, a HMD displays the mixed reality image generated by the composition unit.

Since an operation panel image includes a large amount of information, a large display screen is required to display the operation panel image. Thus, it is difficult for a HMD having relatively small display screen to display the operation panel image. In the invention, the operation panel is arranged at a position in the physical space within a viewing field of the image capturing unit. Accordingly, the user wearing the HMD can see the operation panel image with fine visibility. In accordance with Applicants' invention, a high performance image processing apparatus is provided for displaying a mixed reality image.

The newly cited Williamson et al. publication is relied on to teach, *inter alia*, a first measurement unit which measures a position and orientation of a HMD. As recognized on pages 3 and 4 of the Office Action, however, the Williamson et al. publication does not teach or suggest, *inter alia*, an operation panel which is positioned in the physical space displays an

operation panel image used for editing the virtual image.

As such, the Office Action relies on Jaszlics et al. to overcome these deficiencies. Jaszlics et al. teaches a system for combining virtual images with real world scenes. In contrast to Applicants' claimed invention, however, Jaszlics et al. does not teach or suggest, among other features, an operation panel which can be operated by the user, arranged at a position in the physical space within a viewing field of said image capturing unit attached to the HMD, displays an operation panel image used for editing the virtual object, and is capable of receiving a user instruction of editing the virtual object input by the user, as recited in Claim 10. According to the present invention, as defined in claim 10, the operation panel is positioned at a position, in the physical space, which can be within a viewing field of the image capturing unit attached to the HMD. Since the user wears the HMD displaying the mixed reality image, the user can see the operation panel appearing in the mixed reality image via the HMD. Accordingly, the operation panel is not to be seen directly by the user, but appears in a physical space image included in the mixed reality image to be seen via the HMD by the user. Jaszlics et al. fails to teach or suggest a technique for providing a mixed reality image to a user via a HMD.

Accordingly, without conceding the propriety of combining Williamson et al. and Jaszlics et al., such a combination still fails to teach or suggest Applicants' claimed invention. The tertiary citation to the Lescinsky publication relates to interactive scene manipulation and was relied on for teaching the generation of a image of a virtual object based on 3D CAD data. The Lescinsky publication fails, however, to compensate for the deficiencies in Williamson et al. and Jaszlics et al. as discussed above.

Claims 14 and 15 relate to an image processing method and a computer readable storage medium, respectively, and correspond to Claim 10. These claims are thus also submitted to be patentable over the art discussed above.

For the foregoing reasons, Applicant respectfully submits that each of independent claims 10, 15 and 16 is patentable over the applied art of record. In addition, dependent Claims 11-14 set forth additional features of Applicants' invention. Independent consideration of the dependent claims is respectfully requested. Therefore, reconsideration and withdrawal of the rejection of Claims 10 and 13-16 under 35 U.S.C. §103 is respectfully requested.

Applicant respectfully submits that all outstanding matters in the above application have been addressed and that this application is in condition for allowance. Favorable reconsideration and early passage to issue of the above application is respectfully sought..

Applicants' undersigned attorney may be reached in our Washington, D.C. office by telephone at (202) 530-1010. All correspondence should continue to be directed to our below-listed address.

Respectfully submitted,

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